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UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

JAMIE L. WILDEN, Legal Guardian of Janice T. Wilden; JACOB YEAGER, Legal Guardian of Vincent Yeager,

Plaintiffs-Appellants,

v.

LAURY TRANSPORTATION, LLC, et al.,

Defendants,

GREAT DANE LIMITED PARTNERSHIP, aka Great Dane Trailers, Inc., aka Great Dane Trailers Limited Partnership,

Defendant-Appellee.

No. 17-6306

Appeal from the United States District Court
for the Western District of Kentucky at Louisville.
No. 3:13-cv-00784—David J. Hale, District Judge.

Argued: July 31, 2018

Decided and Filed: August 23, 2018

Before: BOGGS, CLAY, and ROGERS, Circuit Judges.

COUNSEL

ARGUED: Paul F. Ferguson, Jr., THE FERGUSON LAW FIRM, Beaumont, Texas, for Appellants. John L. Tate, STITES & HARBISON, PLLC, Louisville, Kentucky, for Appellee. **ON BRIEF:** Paul F. Ferguson, Jr., THE FERGUSON LAW FIRM, Beaumont, Texas, Kevin C. Burke, Jamie K. Neal, BURKE NEAL, PLLC, Louisville, Kentucky, Ronald P. Hillerich, Louisville, Kentucky, Allen K. Gruner, Louisville, Kentucky, for Appellants. John L. Tate, Marjorie A. Farris, STITES & HARBISON, PLLC, Louisville, Kentucky, for Appellee.

OPINION

ROGERS, Circuit Judge. This Kentucky state-law products-liability case was brought on behalf of Janice T. Wilden and her young son, both of whom were involved in a serious traffic accident with an eighteen-wheel tractor-trailer. Janice Wilden suffered severe brain damage when her sedan was pulled beneath the side of the trailer in what is known as a "side-underride" crash. The only remaining defendant is Great Dane Limited Partnership, the trailer's manufacturer. At issue on appeal is the district court's exclusion of plaintiffs' expert-witness testimony about an alternative design that allegedly would have prevented, or at least mitigated, Janice Wilden's injuries. That alternative design is a so-called "telescoping side guard." An ordinary, fixed-position side guard would block the space underneath the side of the trailer so that, in the event of a crash, automobiles would not go underneath. A telescoping side guard would also slide and expand to protect the space opened up when a truck's sliding rear-axle—which trucks use to meet state and federal weight-per-axle regulations—is moved toward the rear of the truck. The problem is that, although elements of the telescoping design have existed for some time, and computer simulations suggest that the design could work, nobody has ever built or tested one in the real world. Primarily on that basis, the district court held that the testimony of the two expert witnesses was unreliable and thus inadmissible under Federal Rule of Evidence 702, and therefore granted summary judgment to Great Dane. In the context of this case, including the total absence of real-world, physical-prototype testing and the fact that neither of the experts had designed (let alone built) a telescoping side guard prior to this litigation, the district court did not abuse its discretion in excluding the evidence. Summary judgment was thus proper.

On June 24, 2013, a sedan driven by nineteen-year-old Janice Wilden and containing her infant son crashed into the side of a trailer, manufactured by defendant Great Dane, which was being pulled behind a tractor that allegedly failed to yield the right-of-way. According to a police accident report, the tractor-trailer was turning left into the northbound lanes of the Greenbelt Highway—a divided highway in Louisville—when Wilden's Chevrolet, which was

traveling south on that highway, struck the left side of the trailer. The district court described the resulting accident as follows:

> The Chevrolet's right-front edge struck the left back tandem ax[le] of the trailer, and the remainder of the car went underneath the trailer, pushing past the windshield, a type of car-and-truck collision known as "underride." The trailer's rear wheels were in their most rearward possible position at the time of the crash. Perry Ponder, Plaintiffs' expert, estimates that Wilden was traveling at 38 miles per hour and at a 63-degree angle relative to the trailer's roadside floor rail when she struck the trailer.

Wilden v. Laury Transp., LLC, No. 3:13-cv-784-DJH-CHL, 2016 WL 4522670, at *1 (W.D. Ky. Aug. 29, 2016) (record citations and footnote omitted). That version of the facts is not in dispute for purposes of this appeal. Tragically, Wilden suffered severe and debilitating injuries, including brain damage. Her son's injuries fortunately were not severe. The trailer involved in the accident was manufactured by Great Dane in 1998 and lacked protection against side underride.

Tanya Wilden (Janice's legal guardian) and Jacob Yeager (the legal guardian of Janice's son) brought this suit in Jefferson County Circuit Court. The case was subsequently removed to federal district court, where Tanya Wilden was replaced as Janice Wilden's legal guardian by Jamie Wilden, the appellant here. (For convenience, we refer to the plaintiffs collectively as "Wilden.") The only remaining defendant is Great Dane and the only remaining claim is a products-liability claim under Kentucky law. The specific claim is one of "crashworthiness,"[1] which has three elements: "(1) an alternative safer design, practical under the circumstances; (2) proof of what injuries, if any, would have resulted had the alternative, safer design been used; and (3) some method of establishing the extent of enhanced injuries attributable to the defective design." *Toyota Motor Corp. v. Gregory*, 136 S.W.3d 35, 41 (Ky. 2004).

To prove the existence of an alternative safer design, Wilden offered the opinions of two experts, Perry Ponder and Bruce Enz, who proposed to testify to the feasibility of a telescoping

[1]"In a crashworthiness or enhanced injury case, the plaintiff claims not that a defect in a motor vehicle caused a collision, but that a defect in the vehicle caused injuries over and above those which would have been expected in the collision absent the defect. The claim, in essence, is that the design of the vehicle failed to reasonably protect the occupant in a collision." *Toyota Motor Corp. v. Gregory*, 136 S.W.3d 35, 41 (Ky. 2004).

side guard. In Ponder's description, a telescoping side guard is "a horizontal bar underneath the side of the trailer that would expand or slide rearward as the trailer tandems are repositioned rearward underneath the trailer." Critically, only a telescoping side guard would have prevented or reduced the extent of Janice Wilden's injuries. The rear axle on modern tractor-trailers can be extended rearward to comply with various state and federal regulations. Here, according to Ponder, the trailer's wheels were in the "most rearward possible position" at the time of the accident, and Janice Wilden's sedan hit the trailer near the rear axle. With a regular, non-telescoping side guard, there would still have been a 78-inch gap between the rear tires and the side guard, large enough to fit Janice Wilden's 72-inch-wide sedan. Thus, only a telescoping design would have extended far enough back to the rear wheels so as possibly to prevent underride from occurring there. In his expert report prepared for this litigation, Ponder proposed a design for a telescoping side guard. Ponder's report also included another, similar telescoping design developed (but apparently never built) by Strick Trailers in 2000.

Non-telescoping, fixed-position side guards exist, though they are not an industry standard and are not legally required. Indeed, Enz built some years before this lawsuit. However, neither Ponder's design, nor the Strick design, nor any other *telescoping* side guard has ever been built. As evidence of prior telescoping designs, Wilden points to a 1968 report sponsored by the federal government and a 1977 patent, but Wilden concedes that both of these designs "call for telescoping guards in an upward rather than lateral manner." Thus, even if these designs could be built and had been on the trailer in this case, they could not have extended horizontally to prevent underride from occurring. Wilden also cites a 2006 patent application by several people including Enz, but which Enz himself stated did not incorporate a telescoping design.[2] Additionally, Wilden observes that there are a few patents—such as the 2000 Strick Trailers Patent mentioned in Ponder's report—for side guards with telescoping elements (although it is not at all clear from Wilden's briefs that these designs could telescope horizontally to accommodate a sliding rear axle, as would have been necessary here). At any rate, regardless of the precise mechanics of these designs, it is undisputed that no horizontally telescoping side

[2]When Great Dane's lawyer asked Enz in his deposition whether the 2006 patent "had a telescoping section," Enz responded, "It did not, although that would have been intended to be part and parcel to the—to the unit." Enz also testified that this patent application was denied.

guard has ever actually been built or physically tested, let alone used in the trucking industry. Indeed, the most testing that Ponder did, even for this litigation, was to test the load-bearing capabilities of his telescoping design via finite element analysis—a mathematical, computerized method for determining how a product will react to real-world conditions. Ponder did not, however, conduct his finite element analysis using the 63-degree angle of impact that occurred in Janice Wilden's accident. Enz did not perform any tests on Ponder's design.

Great Dane moved in limine to exclude the opinions of Ponder and Enz and also for summary judgment. Performing its gatekeeping role under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), the district court found Ponder's and Enz's opinions to be unreliable and thus inadmissible under Federal Rule of Evidence 702. In reaching this conclusion, the district court considered the following factors relating to reliability: (1) "whether a 'theory or technique . . . can be (and has been) tested'"; (2) "whether the theory or technique enjoys 'general acceptance' within a 'relevant scientific community'"; and (3) whether the design was prepared solely for this litigation. *Wilden*, 2016 WL 4522670, at *2 (ellipses in original) (quoting *Johnson v. Manitowoc Boom Trucks, Inc.*, 484 F.3d 426, 429 (6th Cir. 2007)).

The district court first concluded that the telescoping side guard was not adequately tested, and thus this factor weighed against admissibility. The court found that, although Ponder and Enz were highly qualified, neither had expertise in telescoping side guards in particular. The court therefore determined that "testing is necessary." *Id.* at *3. The court then concluded that the telescoping side guard had not been adequately tested in view of "the complexities behind industrial equipment, the extensive testing necessary to prudently test underride side guards prior to retail, and the relatively minimal testing that Ponder and Enz conducted," which consisted solely of computer modeling. *Id.* at *4 (internal citations omitted).

The court also reviewed the second factor—general acceptance—and concluded that it too weighed against admissibility:

> Unlike *Johnson*, where the expert's proposed alternative was accepted and in use within the relevant industry, Ponder and Enz's prototype of the proposed telescoping side guard has never been built. Although Ponder's report states that the design principles have been known for a long time, this does not mean that the telescoping side guard proposed by Ponder and Enz has been accepted by their

> peers. Nor could it be, since it only exists as Ponder and Enz's concept. This factor therefore also weighs against admitting Ponder's and Enz's testimonies.

Id. (record citations omitted). The court also discussed the prepared-for-litigation factor, but considered that factor "neutral" because, although Ponder and Enz had not personally developed a telescoping design before this litigation, the concept appeared to have at least existed. *Id.* at *4-5.

All told, the district court concluded that the evidence was inadmissible:

> In sum, Ponder's and Enz's testimonies fail to meet any of the relevant *Daubert* factors. The testing was insufficient by Enz's own standards. The proposed alternative design is not used in the relevant industry; it is new and not generally accepted. And even though the idea of an expanding side guard appears to have already existed, the telescoping bar was not created by Ponder or Enz prior to this litigation. The Court therefore finds that these opinions are unreliable. As such, they are inadmissible under FRE 702.

Id. at *5 (record citations omitted). Finally, concluding that the opinions of Ponder and Enz were essential to Wilden's claims because only a telescoping design would have prevented underride, the court granted summary judgment to Great Dane. *Id.*

Wilden now appeals.

The district court did not abuse its discretion in excluding the testimony of Ponder and Enz. Although the record shows that Ponder did perform some computerized testing and modeling, it was not unreasonable for the district court to require physical-prototype testing given that nobody has ever built a telescoping side guard. Further, while the idea of a telescoping side guard has existed for some time, the design that Ponder offers here was created for this litigation. For these and other reasons, the expert evidence was permissibly excluded by the district court. Moreover, because Wilden's claim cannot survive without that evidence, summary judgment was proper.

Federal Rule of Evidence 702 governs the admissibility of expert testimony. It provides:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:
>
> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) the testimony is based on sufficient facts or data;
>
> (c) the testimony is the product of reliable principles and methods; and
>
> (d) the expert has reliably applied the principles and methods to the facts of the case.

As interpreted in *Daubert*, Rule 702 grants district courts "discretion in determining whether . . . a proposed expert's testimony is admissible, based on whether it is both relevant and reliable." *Johnson*, 484 F.3d at 429. The Supreme Court has identified several non-exclusive factors that lower courts may consider in assessing reliability: (1) whether a theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether the technique has a high known or potential rate of error; and (4) whether the technique enjoys general acceptance within the relevant scientific, technical, or other specialized community. *Daubert*, 509 U.S. at 593–94; *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147-50 (1999). We have approved the use of an additional factor: whether the expert prepared his or her opinion "solely for purposes of litigation." *See Johnson*, 484 F.3d at 434.

Here, the district court considered three of the factors and determined (1) that the telescoping side guard was inadequately tested, (2) that it was not generally accepted, and (3) that the prepared-for-ligation factor was "neutral." On balance, therefore, the district court concluded that Ponder's and Enz's testimony was unreliable and accordingly inadmissible. We review that determination for abuse of discretion, and we are "highly deferential when assessing not just a trial court's analysis of each factor, but also the trial court's initial selection of which factors are relevant to the case at hand." *Id.* at 430; *see also Kumho Tire Co.*, 526 U.S. at 152–53.

Taking the testing factor first, it was permissible for the district court to determine that the telescoping design was inadequately tested. Nobody—engineer, manufacturer, or

otherwise—has ever built or tested a physical prototype of a telescoping side guard. Ponder's testimony was quite clear on this point:

> **Q.** You are not aware of anyone who has built a guard with a telescoping section incorporated as part of the design; correct?
>
> **A.** Actually constructed it? That's correct.
>
> **Q.** And that's—whether it's you or another consultant like yourself or any trailer manufacturer or anyone else, an academic at some university, anywhere in the world; correct? You're not aware of anybody having attempted to build a side guard with [a] telescoping component; correct?
>
> **A.** Well, the industry certainly hasn't done it, and I'm not aware that's correct.
>
> **Q.** So no one, to your knowledge, in the world has attempted to build a guard with a tele[s]coping section; correct?
>
> **A.** That's right, to my knowledge.
>
> **Q.** And, therefore, no one has been able to take a constructed guard and perform any type of testing on it to see how strong or what type [of] loads might be applied to the telescoping section; correct?
>
> [objection]
>
> **A.** Correct.

Enz gave similar testimony:

> **Q.** Okay. You have not built and tested a telescoping guard component, have you?
>
> **A.** No, sir.
>
> . . . .
>
> **Q.** To your knowledge, nobody in the world has built a telescoping guard for the side of a trailer, correct?
>
> **A.** Not to my knowledge.

Moreover, Enz testified that, before selling a trailer with side-underride protection in 1998, a reasonably prudent engineer would have "come up with a concept," and then would have "develop[ed] the concept . . . perhaps even [had] a prototype made discussing some of the pros and the cons, and seeing if they can eliminate the cons, or if they are valid. And then obviously the prototype has got to come along, and then testing." As the district court recognized, Enz's

own standards were not met here, where there was no physical testing on a prototype of a telescoping side guard. *See Wilden*, 2016 WL 4522670, at *3-4.

It is unsurprising that Enz would have specified such high standards for a new concept, given that underride protection presents a complex engineering challenge. As the National Highway Traffic Safety Administration ("NHTSA") explained in its rule requiring *rear* underride guards:

> Underride occurs to some extent in most collisions in which a passenger vehicle crashes into the rear end of a large trailer because most trailer beds are higher than the hoods of passenger vehicles. In the worst cases, referred to as passenger compartment intrusion (PCI) or "excessive underride" crashes, the passenger vehicle underrides so far that the rear end of the trailer strikes and enters its passenger compartment. PCI collisions generally result in passenger vehicle occupant injuries and fatalities caused by occupant contact with the rear end of the trailer.
>
> The solution to PCI is upgrading underride guards to make them stronger, but this introduces another concern. Even if guards succeed in preventing PCI, overly rigid guards may stop the passenger vehicle too suddenly, resulting in excessive occupant compartment deceleration forces and killing or injuring passenger vehicle occupants.

Federal Motor Vehicle Safety Standards Rear Impact Guards; Rear Impact Protection, 61 Fed. Reg. 2004, 2004 (Jan. 24, 1996). Thus, "[t]he key engineering challenge in designing such a guard involves a trade-off between the strength of a rear guard and its capacity to absorb energy." *Rapp v. Singh*, 152 F. Supp. 2d 694, 696 (E.D. Pa. 2001). Too strong and the guard will stop cars too quickly; too flexible and the guard will not adequately prevent underride. Underride protection must therefore strike a careful balance between rigidity and energy absorption.

Physical-prototype testing helps find that balance. Indeed, dynamic crash testing played an important role in the development of the federal standards for rear underride guards, which are now an industry standard. The NHTSA first proposed rigid rear underride guards that could withstand 75,000 pounds of static force. *See* Rear Underride Protection; Trailers and Trucks With Gross Vehicle Weight Rating Over 10,000 Pounds, 34 Fed. Reg. 5383, 5384 (Mar. 19, 1969). Later, this was revised to 50,000 pounds. *See* Rear Underride Protection; Trucks and

Trailers, Notice of Proposed Rule Making, 35 Fed. Reg. 12,956, 12,957 (Aug. 14, 1970). But after dynamic crash testing, the NHTSA concluded that such guards were not effective because, even where excessive underride was prevented, the "rigid guards increase[d] the deceleration forces experienced by car occupants in a crash and thus increase[d] the risk of injury due to hazards other than underride." Federal Motor Vehicle Safety Standards; Rear Underride Protection, 46 Fed. Reg. 2136, 2138 (Jan. 8, 1981). The final rule provided for rear guards far different from those originally proposed, requiring each guard to withstand 22,480 pounds of force at certain points, and half that amount at others. *See* Federal Motor Vehicle Safety Standards Rear Impact Guards; Rear Impact Protection, 61 Fed. Reg. at 2009-10. The guards also must displace at least 5 inches and must absorb at least 5,650 joules during that displacement. *Id.* at 2011. In short, designing underride protection is complicated and crash testing helps get it right.

There is also reason to believe that designing *side* underride protection, and especially a telescoping side guard, is even more complicated than rear underride protection. Trailers are much longer than they are wide, so side guards must protect a larger area than rear guards. Moreover, while rear collisions usually involve a perpendicular impact as the car runs straight into the rear of the trailer, side collisions happen at a wider range of impact angles, such as the 63-degree angle at which Janice Wilden's sedan struck the trailer in this case. Finally, sliding rear-wheel assemblies mean that a telescoping design is needed, which makes the design more complicated by introducing moving parts and extra joints. Thus, physical-prototype testing is even more important in this context.

In view of these considerations, the district court did not abuse its discretion by requiring physical-prototype testing. The concept here exists only in theory, rendered on paper and in computers, but never given physical form. Particularly due to the difficulty of achieving the right balance between strength and flexibility—as demonstrated by the history of rear-guard

regulation—and the even greater difficulties of designing side guards, it made good sense for the district court to require some physical testing on the facts of this case.[3]

Precedent supports this conclusion. In *Johnson*, 484 F.3d at 426, we upheld the district court's exclusion of expert testimony about an interlocking-outrigger system, which, according to the expert, would have prevented a truck-mounted crane from falling over onto the victim. Typically, truck-mounted cranes (also known as "boom truck cranes") are braced with several spider-like legs (called "outriggers") that anchor into the ground to stabilize the crane while it is in use. *Id.* at 427. The accident in *Johnson* occurred when one of the outriggers was retracted while the crane was in use, causing it to tip over onto the victim. The plaintiff's expert would have testified about the feasibility of a so-called interlocking-outrigger system, which would have prevented the crane from operating if any of the outriggers were not in contact with the ground. *Id.* at 428. Such a system had been used on a smaller kind of crane for some time, but had not been used on the much larger crane at issue in *Johnson*. Therefore, the plaintiff's expert proposed to testify about retrofitting the system onto the larger crane. However, the expert "did not actually test his schematic, . . . in other words, he conducted no empirical research to determine just how functional his proposed retrofit of the [large crane] might be." *Id.* We concluded that the district court did not abuse its discretion in excluding the expert's testimony, reasoning that testing was necessary under the circumstances because "the design of industrial equipment is a complex process and changes to prevent one problem could create other problems, thus increasing the overall danger of using a product." *Id.* at 431 (quoting *Brown v. Raymond Corp.*, 432 F.3d 640, 648 (6th Cir. 2005)). As discussed above, the same concerns are present here.

Wilden cites several out-of-circuit cases that purportedly show that a district court may never require physical-prototype testing, but these cases do not actually support that extreme proposition. Wilden first points to *Quilez-Velar v. Ox Bodies, Inc.*, 823 F.3d 712 (1st Cir. 2016), another case in which Ponder served as an expert witness. *Quilez-Velar* rejected the defendant's argument that "Ponder's testimony should have been excluded under *Daubert* because the expert

[3]This conclusion is only reinforced by the fact that the merits question here is not whether a telescoping design would be practicable *today*, but whether such a design would have been practicable *in 1998* when Great Dane sold the trailer involved in the accident.

must have actually tested the alternative design, either physically or using computer modeling, and Ponder did not do so," reasoning that this "argument rests on a profound misunderstanding of *Daubert*, which eschews such per se approaches." *Id.* at 718. But, crucially, that case was about rear guards, *see id.* at 717, which have been on trucks for decades, and have been physically tested many times. Telescoping side guards, on the other hand, have never been built or tested. *Quilez-Velar* thus helpfully demonstrates the kind of case where prototype testing might not be needed. As the district court here explained, "the need for testing is lessened if the proposed alternative design is *simple* or is *already in use in the industry*." *Wilden*, 2016 WL 4522670, at *3 (emphasis added) (internal quotation marks and citation omitted). The telescoping side guard is neither simple nor in use; the rear guard is at least the latter. Thus, although it might well be an abuse of discretion for a district court to require physical-prototype testing of a fixed-position rear guard when such devices have long been in use, here it was reasonable to expect some physical testing of the telescoping design that has never been built. This conclusion accords with *Quilez-Velar*'s observation that the *Daubert* inquiry "eschews . . . per se approaches," 823 F.3d at 718, and "depends upon the particular circumstances of the particular case at issue," *id.* (quoting *Kumho*, 526 U.S. at 150). Moreover, the standard of review cut the opposite way in *Quilez-Velar*. There, the district court had admitted Ponder's evidence and the defendant thus had to show that such admission amounted to an abuse of discretion. *Quilez-Velar*'s conclusion—that a district court may, in some circumstances, admit expert evidence *despite* a lack of physical testing—says little here, where the question is whether a district court may, in other circumstances, exclude expert evidence *because of* the absence of such testing.

Wilden also cites *Unrein v. Timesavers, Inc.*, 394 F.3d 1008, 1012 (8th Cir. 2005), in which the Eighth Circuit observed that its cases "do not require that experts manufacture a new device or prototype in order for their opinion to be admitted. The question is whether the expert's opinion is sufficiently grounded to be helpful to the jury." But this statement is consistent with our approach. We, too, do not have a bright-line rule requiring physical-prototype testing. Nor do we adopt such a rule here. Rather, we simply recognize that each case must be decided on its own facts, which sometimes require testing and sometimes do not. Moreover, the court in *Unrein* went on to affirm the district court's exclusion of the disputed

expert testimony, reasoning that although the expert "proposed using a safety trip cord, a commonly used device, he did not prepare drawings showing how it would be integrated into the [industrial] sander or present photographs showing its use with similar machines." *Id.* The court also noted that "[a]n expert proposing safety modifications must demonstrate by some means that they would work." *Id.* *Unrein* thus supports affirmance here, where there is little indication of whether the telescoping design would work.

Wilden further cites *Brochtrup v. Mercury Marine*, 426 F. App'x 335, 339 (5th Cir. 2011), in which the Fifth Circuit discussed a decision of the Texas Supreme Court, *General Motors Corp. v. Sanchez*, 997 S.W.2d 584 (Tex. 1999). The language that Wilden quotes from *Sanchez*, however, dealt with a question of substantive Texas products-liability law, not the admissibility of expert evidence under federal law. *See id.* at 590-92. In sum, the dicta Wilden has pulled from out-of-circuit cases provide scant support for reversal here because none of it suggests that a district court lacks the discretion to require physical-prototype testing under appropriate circumstances.

Wilden also argues that, even if prototype testing might sometimes be required, such testing was not necessary here due to the extensive expertise that Ponder and Enz have in the area of side-underride protection. However, this argument fails. First, there is no per se rule in this circuit that physical testing is unnecessary whenever an expert has sufficient expertise with the particular matter in question. Wilden relies on our statement in *Johnson* that "[o]ne way to overcome the testing requirement might be to show that the expert has significant technical expertise in the specific area in which he is suggesting an alternative design." 484 F.3d at 431. But *Johnson* noted that this proposition came from an out-of-circuit district court case, *Bah v. Nordson Corp.*, No. 00CIV9060DAB, 2005 WL 1813023 (S.D.N.Y. Aug. 1, 2005), and then went on to recognize that "even if the logic of *Bah* were binding on this Court (which it is not, seeing as it stems from a district court in a different circuit than our own), it would not apply to the case at hand." *Johnson*, 484 F.3d at 432. There is thus no rule in this circuit that expertise necessarily excuses the need to test a design. Moreover, this statement was dictum. In *Johnson*, we concluded that the expert in question was a generalist without specific expertise, and we therefore affirmed the district court's exclusion of expert evidence without deciding whether to

adopt *Bah*'s reasoning. *See id.* Additionally, even if *Bah* were correct that an expert's testimony is reliable so long as the expert has "'extensive experience' with the very types of machines at issue in the case," *id.* (quoting *Bah*, 2005 WL 1813023, at *8), that would not matter here because neither Ponder nor Enz—nor indeed anyone—can be said to have "extensive experience" with telescoping side guards which have never been built.

Next, Wilden contends that even if some testing was required to validate the telescoping design, Ponder and Enz satisfied that requirement through mathematical modeling and computer testing. But the district court here had discretion to require physical-prototype testing. Computer modeling might sometimes be enough; indeed, it might have sufficed had this case been about the industry-standard rear guard. Because a telescoping side guard has never been built, however, the district court was permitted to require more to ensure the reliability of Ponder's and Enz's opinions.

Wilden offers various arguments as to why computerized testing was sufficient, but they are not persuasive. First, Wilden argues that Ponder's computer modeling was enough for admissibility because the modeling complied with the Federal Motor Vehicle Safety Standards for rear underride guards. *See* 49 C.F.R. § 571.223. Even though that regulation appears to call for some physical testing, *see id.* ("S6. Guard Test Procedures"), Wilden contends that physical testing is not in fact required because, according to a 1997 letter from the NHTSA, rear guard designs can be validated by "other kinds of testing or even engineering analysis." *See* Letter from John Womack, Acting Chief Counsel, NHTSA, to Frank Smidler, Dir. of Eng'g, Wabash Nat'l Corp. (April 29, 1997). This argument is unavailing, however, because even if Wilden's interpretation of the 1997 letter is correct (which is doubtful), general NHTSA standards for testing rear guards are not particularly helpful in determining how to validate the novel telescoping side guard. Second, Wilden maintains that a report commissioned by the European Union uses finite element analysis to test side-underride protection. Great Dane contends that this report does not in fact support Wilden's position because crash tests were later used to validate the report's numerical model. Regardless of who is correct, this one EU report is not enough to show that the district court lacked discretion to require physical testing here.

It is true that *Johnson* recognized that non-physical testing may sometimes suffice: "We can imagine innumerable tests that could have been conducted by [the expert]—all well short of building a full-fledged prototype of the Manitowoc 2592, but all well beyond drawing a one-page diagram—that would have demonstrated the practicality of his proposed design." 484 F.3d at 433. We need not disagree with this statement to affirm the district court here. That non-physical testing perhaps would have sufficed in *Johnson* says nothing about this case. *Johnson* is factually distinguishable because there someone had at least built an interlocking-outrigger system, just not one as big as would have been required to fit the crane in question. *Johnson* was thus about adapting a safety device from a small crane to a large crane, a difference in degree rather than in type. In contrast, the telescoping side guard exists only on paper and in computers. The design at issue in *Johnson* was not as novel as the one here, and for that reason different testing may have been sufficient.[4]

Accordingly, on the particular facts of this case, the district court's determination that the testing factor weighed against admissibility was not an abuse of discretion.

Moving on to the general-acceptance factor, the district court reasoned that, because the telescoping design had "never been built," it could not be "generally accepted" within the trucking industry. *Wilden*, 2016 WL 4522670, at *4-5. This was a sensible conclusion. Of course, "general acceptance" refers most naturally to scientific methodology rather than product design, but as the Supreme Court held in *Kumho*, 526 U.S. at 149-50, and as we reaffirmed in *Clay v. Ford Motor Co.*, 215 F.3d 663 (6th Cir. 2000), "general acceptance . . . may be considered by the district court even when the proffered expert testimony is not scientific," *id.* at 667. The parties dispute the precise meaning of this factor. We have previously equated general acceptance with "industry custom." *Johnson*, 484 F.3d at 434. Wilden argues that the proper inquiry is not whether the trucking industry has already adopted telescoping side guards, but whether they are generally accepted as being *feasible*. We need not decide which is the correct inquiry because, regardless of what it means to be "generally accepted" in this context, the telescoping design is not. It cannot be an industry custom to use something that has never once

[4]Moreover, the above-quoted statement is dictum, as the expert in *Johnson* conducted no testing and the panel thus had no occasion to consider the efficacy of a particular form of testing.

been built. Nor has Wilden shown that the telescoping side guard is even generally accepted as being feasible. Wilden points to the Strick Design and a few patents, but these items are few in number and show, at most, that the telescoping side guard existed as a concept. In *Daubert*, the Supreme Court observed that "a known technique which has been able to attract only minimal support within the community may properly be viewed with skepticism." 509 U.S. at 594 (internal quotation marks and citation omitted). Because that characterization applies to the telescoping side guard, which has been built by no one, the district court permissibly concluded that the general-acceptance factor also weighs against admissibility.

Although not one of the considerations mentioned in *Daubert* itself, we have recognized that "expert testimony prepared solely for purposes of litigation, as opposed to testimony flowing naturally from an expert's line of scientific research or technical work, should be viewed with some caution." *Johnson*, 484 F.3d at 434. This factor likewise cuts against admissibility here. The district court found that, although Ponder and Enz were not "quintessential experts for hire," *Wilden*, 2016 WL 4522670, at *4 (alteration omitted) (quoting *Johnson*, 484 F.3d at 435), and that they were unquestionably qualified, the particular telescoping design proffered here was "conceived after the start of this litigation" and was not a product of their independent work, *id.* The court concluded, however, that because the telescoping concept might have existed prior to the litigation (even if Ponder's particular design did not), this factor was "neutral." *Id.* at *5. Wilden argues that this factor favors admission because both Ponder and Enz have "participated in the design of side underride guards completely apart from litigation." Yet neither of them developed a *telescoping* side guard until the start of this litigation. Indeed, Ponder stated in his deposition that he made drawings of his telescoping design sometime after November 2013, which means the drawings were created at least several months after this lawsuit was filed. Wilden also points out that in 2006 Enz and others devised a patent for an extendable side guard. But Enz explicitly testified that it was not a telescoping design. Because neither Ponder nor Enz developed a telescoping design until hired to do so (apparently in response to the particular accident in this case), Ponder's design was not a natural outgrowth of his independent research. Thus, this factor too weighs against admissibility, though not as heavily as the others.

The district court did not consider the other two factors mentioned in *Daubert*—error rate and peer review—because, according to the district court, "there is little if any published or peer-reviewed information regarding the proposed alternative design and the third factor [error rate] is irrelevant to the case at hand." *Id.* at *2. Wilden does not dispute the court's conclusion as to the error-rate factor but argues that the peer-review and publication factor is relevant and favors admissibility. However, contrary to Wilden's contention, to the extent that the peer-review factor is relevant it cuts the opposite way. Wilden cites several academic articles, including many authored at least in part by Ponder or Enz, and many of which do appear to come from peer-reviewed journals. But Wilden does not argue that any of those articles address telescoping side guards, as opposed to the problem of side underride in general. Moreover, although Wilden argues that "telescoping side guards have appeared in published works for decades," this is mostly a reference to various patents that supposedly incorporated telescoping elements, and patents are not peer-reviewed.[5] Thus, even if this factor were relevant, it would weigh against admissibility. What is more, our review of the district court's choice of factors is "highly deferential." *Johnson*, 484 F.3d at 430. "[W]hether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine." *Kumho*, 526 U.S. at 153. Under that standard of review, Wilden has not provided nearly enough for us to second-guess the district court's decision to exclude the peer-review and publication factor from its analysis.

Finally, Wilden advances the policy argument that affirming in this case will unduly hamper future products-liability litigation due to the expense of building physical prototypes. But, contrary to Wilden's contention, by affirming here we do not create a bright-line rule that plaintiffs must always physically test proposed alternative designs. Rather, as has long been the case, "'the gatekeeping inquiry must be tied to the facts of a particular case,' depending on 'the nature of the issue, the expert's particular expertise, and the subject of his testimony.'" *Johnson*,

[5]Almost all communication regarding whether to grant a patent occurs only between the applicant and the patent examiner. In fact, "[e]xaminers may neither consult the public, talk to experts, nor, in many cases, even use the Internet." Beth Simone Noveck, *"Peer to Patent": Collective Intelligence, Open Review, and Patent Reform*, 20 Harv. J. L. & Tech. 123, 124 (2006). Moreover, "independent third-party input is greatly restricted; it must be made by mail, within a two-month window, for a fee of $180, and without commentary. Not surprisingly, third-party input is rarely given." *Id.* at 136.

484 F.3d at 430 (quoting *Kumho*, 526 U.S. at 150). As the First Circuit noted in *Quilez-Velar*, *Daubert* "eschews . . . per se approaches." 823 F.3d at 718. We do not apply a per se approach today, but instead reach only the common-sense conclusion that the district court had the discretion to require physical-prototype testing of this particular never-built design.

Wilden also argues that the district court's grant of summary judgment was erroneous, but the evidentiary issue is dispositive. Indeed, Wilden does not contend that summary judgment can be avoided without Ponder's and Enz's testimony.

For these reasons, the district court's judgment is affirmed.